
UNITED STATES
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THE HISTORY OF FOUR CASES

OF

CHRONIC INVERSION OF THE UTERUS,

WITH THE ACCOUNT OF AN OPERATION DESIGNED AS A SUBSTITUTE FOR AMPUTATION.*

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It is not certainly known whether the condition which we style inversion of the uterus, and which consists in the turning of the uterus inside out, was understood before the time of Ambrose Paré. Since his epoch, it has been fully described by his successors, and all its pathological features, its various symptoms, and its manifold dangers, have been thoroughly appreciated. From the time of Paré, however, who lived about the middle of the 17th century, to our own, although great advances were made in the scientific departments of the subject, very little was attained in the way of treatment. The possibility of replacing, by taxis, a uterus recently inverted, was understood, but for cases in which the organ had been displaced for

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years, or even for months, no resource existed, except amputation.

It is certainly one of the many triumphs of which the gynecology of the 19th century can boast, that this accident has been proved to be amenable to conservative measures, and that taxis has been shown to be capable of effecting a cure, and preventing a resort to a mutilating surgical procedure. There can be no doubt that the urgency of the symptoms which attend upon inversion is sometimes so great that a resort to amputation, after failure by other means, is rendered perfectly legitimate. But, on the other hand, every surgeon must shrink from a procedure which destroys his patient's capacity for the performance of two of her most important physiological functions, and no one can view it in any other light than that of a last resource.

So far as I have been able to ascertain, the first cases of chronic inversion which were successfully reduced by taxis are those mentioned by Colombat,* in the following passage: "Dr. Daillez reports, in his dissertation, that the surgeon Labarre De Benzeville had effected the reduction as late as the eighth month; and Baudelocque, after eight years." In later times, the first case of success occurred in 1847.† The inversion had lasted more than a year, when M. Valentin, by introducing one hand into the vagina, and making counter-pressure by the other over the abdomen, succeeded in reducing the displaced fundus in ten minutes. In 1852,† Mr. Canney, in the same manner, effected reduc-

* Colombat, Amer. Ed., p. 186.

† Quoted from Ranking's Abstract, vol. 7, by G. Hewitt.

tion in a case of five months' standing, and in the same year* M. Berrier accomplished it in one which had existed for fifteen months. Four years after this, Dr. Tyler Smith, of London, effected reduction in a case of twelve years' standing, by combining taxis with pressure through the vagina by a caoutchouc bag filled with air. More than a week was consumed before his persevering efforts were crowned with success. Cases of cure effected by taxis alone, or combined with pressure by bags of air or water placed in the vagina, were after this rapidly reported from different parts of the world. Most notable among these were the cases of White, of Buffalo, in 1858, of fifteen years' standing, and Noeggerath, of New York, in 1852, of thirteen years' standing. Within the past ten years, cures have multiplied so rapidly as to preclude the mention of individual cases in an essay of the character of this.

The prognosis of chronic inversion is at all times grave. Repeated and prolonged hemorrhages prostrate the patient, and expose her to all the risks of the worst forms of uterine polypi. But not only is she exposed to dangers inherent to the displacement from which she suffers; those attendant upon an erroneous diagnosis are very great. To one alive to the possibility of confounding the condition with fibrous polypus, the methods of differentiation are numerous and reliable; but to the rapid and careless diagnostician, who does not allow that possibility to enter his mind, and consequently does not carefully weigh the evidences in favor of and against it, there is a great likelihood of error. The fol-

* Courty, p. 797.

lowing table, presenting at a glance the chief points by which differentiation may be established, will serve to illustrate the first part of this statement, while a reference to statistics which will follow it will corroborate the second.

If it be a polypus,	*If it be inversion,*
The probe will pass by its side into the uterus.	The probe and finger will be arrested at the neck.
Conjoined manipulation will reveal the uterine body.	Conjoined manipulation will reveal a ring where the body should be.
Rectal touch will reveal the uterus.	Rectal touch will not discover the uterus.
Recto-vesical exploration will reveal the uterus.	Recto-vesical exploration will not discover the uterus.
The pedicle will usually be small.	The pedicle will be large.

These signs will attend only complete inversion. Where the inversion of the body is only partial, much greater difficulty will be found in differentiation. The following are the most reliable means at command:

If it be a polypus,	*If it be inversion,*
The probe will show increase in dimensions of uterine cavity.	The probe will show decrease in dimensions of uterine cavity.
Conjoined manipulation will reveal body of uterus of normal shape.	Conjoined manipulation will reveal small abdominal ring.
Rectal touch will show uterus to be smooth.	Rectal touch will show abdominal ring.
It will have come on gradually.	It will have occurred suddenly.
It will have no reference to parturition.	It will usually have followed parturition.

One who is aware of the great frequency with which amputation of the inverted uterus has been practised under the impression that a fibrous polypus was being removed, cannot but wonder that errors of diagnosis have so often occurred when so many methods of dif-

ferentiation were at command. The explanation is that to which I have referred, namely, that the possibility of error was not entertained. Out of fifty-eight cases of inversion of which a report is given hereafter, and in which amputation was practised, seven were mistaken for polypi.

Even where a correct diagnosis has been made, still another danger menaces the patient—that of rupture of the vagina in efforts made at reduction of the inverted organ. A small hand, a cautious, unexcitable mind, and constant vigilance during all efforts by taxis, must be combined with thorough knowledge of the subject, to avoid this imminent danger. Even with this combination it is a matter of surprise to me, from my experience with these cases, that the accident has not occurred much oftener, and I confess that I should prefer to trust a patient in whom I felt great interest to the operation of abdominal section, as described in case fourth, than to that of prolonged taxis at the hands of a rough, unintelligent, and inexperienced practitioner. To one thinking upon this subject for the first time, this position will appear exaggerated and indefensible; but I assume it after mature reflection.

In the treatment of inversion, three methods have heretofore been adopted.

1st. The organ has been left in malposition; hemorrhage being controlled by hæmostatic means.

2d. The displaced organ has been amputated.

3d. The inversion has been reduced by taxis, by elastic vaginal pressure, or by a combination of the two.

The consideration of the first of these does not come

within the scope of this essay. That of the second and third will occupy us immediately.

Amputation of the uterus has been effected by the knife, the ligature, the écraseur, by the knife or écraseur preceded by the use of the ligature, or by the galvano-caustic. Amputation, however practised, not only destroys the woman's capacity for child-bearing, and impairs that for menstruation; it likewise exposes her life to danger from hemorrhage, from septicæmia, from peritonitis, and from amputation of a loop of intestine contained in the inverted uterus. Dr. Charles West gives us the following table of the results of the operation practised by the various procedures which I have enumerated.

	Cases.	Recovered.	Died.	Operat'n abandoned.
Uterus removed by ligature.....	45	33	10	2
" " by knife or écraseur...	5	3	2	
" " " " preceded by ligature...	9	6	3	
	59	42	15	

By this statement it will be seen that about one-quarter of all operated upon died, and let it not be forgotten that this quarter died, not in being cured, not in an effort, even, at attaining perfect health, but in an attempt at purchasing immunity from a series of dangerous and annoying symptoms at the price of that organ of which Hippocrates says, "propter uterum est mulier."

In The American Journal of Obstetrics, etc., for August, 1868, appears a résumé upon the subject translated from *Beitraege zur Geburtskunde und Gynaekologie.*

"*Record of Removal of the Inverted Uterus by Ligation, Excision, and by both combined.*

I.—Removal by Ligation.

a. Cases terminating successfully.

I.—1767. Faivre, Journ. de Méd., 1767, Août-Labrevoit, l. c., pag. 49. Patient nineteen years old, irreplaceable inversion after birth; threatening gangrene. Separation of uterus on twenty-seventh day.

II.—1824. Rheineck, Siebold's Journ. Bd. 5, dag. 628. Inversion of one month's standing. The ligated tumor soon (?) separated.

III.—1818. Newnham (an essay of inversio uteri. London, 1818). Inversion caused by a neoplasma (polypus or fungus hæmatodes). Uterus separated on seventh day.

IV.—1828. Staub, Schweiz. Zeitschr, fuer Natur u. Heilkunde. Bd. iii. h. 1. Inversion caused by a large polypus; the latter was excised, the uterus ligated.

V.—1835. Bouchet of Lyon (Jacquemier, Manuel des Accouch.), tom. ii. p. 580.

VI.—(?) Gooch, ibid. Inversion existing for three years. Ligature cut through on fourteenth day.

VII.—1840. Harrison, London Med. Gaz., 1840, April. Uterus separated on fourteenth day.

VIII.—1836. Bloxam, Gaz. Méd., 1837. Labrevoit, l. c., p. 50. The inverted uterus was supposed to be a polypus. Ligature removed on sixteenth day; every month a bloody discharge.

IX.—1837. Kuttler, Œsterr. Jahrb. Bd. xi, s. 3. Inversion after eleventh pregnancy; the ligated uterus

separated after three days. Patient is reported to have menstruated again.

X.—1838. J. Williams, Lancet et Gaz. Méd., 1839. Ligature.

XI.—1843. Esselmann, Tenness. Soc. West. Journ. of Med. and Surg., 1843. Aug. Breslau l. c. Inversion of twelve years' standing, believed to be a polypus. Ligated uterus came off on eighteenth day.

XII.—1846. Greyson, London Med. Gaz., 1846. Feb. 20, p. 342. Inversion after a difficult birth ; ligated uterus came off on ninth day.

XIII.—1852. Betschler, Beitr. zur Gynæk. Bd. i. pag. ii. Inversion existing for one year. Ligature cut through on fourteenth day.

XIV.—1855. Oldham, Guy's Hosp. Rep. Ser. iii. 1. Inversion after difficult labor. Ligature came off on twenty-second day.

XV.—1861. Courty, Labrevoit, l. c., p. 51. The ligated uterus came off on thirtieth day.

XVI.—1863. Dale, Gaz. Méd., 1863. Inversion with cancer. Ligature. Cancer recurred after two months; death.

b. Cases terminating fatally.

XVII.—1784 Lammonier, Rec. per. de la Soc. de Méd. de Paris, 1798. T. iv. Labrevoit, l. c., p. 52. Inversion caused by a polypus. Repeated ligations. Death after one month.

XVIII.—1816. M. A. Petetin Lyon, Journ. Gen. de Méd. T. i. vi. Pag. 128. Labrevoit, l. c., p. 52. Inversion, existing since three months; considered a polypus. Ligation. Death on fifth day.

XIX.—1824. Quoted by Boyer in his Traité de Mal. Chir. Inversion mistaken for a polypus. Ligature cut through on twenty-sixth day. Death ensued on thirty-eighth, in consequence of septicæmia.

XX.—1830. Symonds, London Med. Gaz., 1830. Nov. Incomplete inversion, believed to be a polypus. Tumor came off on fifteenth day; death on twenty-third day.

XXI.—1852. Deroubaix, Gaz. Méd. de Paris. 1853. 27 Août. Inversion of eight months. Ligature broke on twelfth day. Death on twenty-third day, with diphtheritic symptoms.

XXII.—1855. Coats, Assoc. Med. Journ., July, 1855. Inversion existing for half a year. Death on sixteenth day after application of ligature.

XXIII.—1860. Betschler, Beiträge zur Gynækologie. Bd. i. pag. 7. Inversion caused by a fibroid tumor. The ligature came off on twentieth day; death on twenty-fourth day.

2.—Removal by Excision.

a. Cases terminating successfully.

XXIV.—1839. Luytgareus, Ann. de la Soc. de Méd. de Gaud. 1839. Inversion caused by a large, broadly attached polypus. Cutting of the pedicle, ligation of the arteries. Healed in ten days; menstruation afterwards.

XXV.—1844. Michalowsky, Journal de la Méd. de Montpellier, May, 1845. Inversion existing since thirteen months. Tumor cut off with scissors. Recovery in fourteen days.

b. Cases terminating unsuccessfully.

XXVI.—1678. Arnoult de la Motte, Tr. d'accoucher, p. 806. Death after a few days.

XXVII.—1788. Deleirye, Labrevoit, l. c., p. 52. Death on third day.

XXVIII.—1858. Aran, Lect. Cliniq. sur les Mal. de l'Uterus. Removal of inverted uterus with écraseur. Death in fifty-nine hours.

XXIX.—1859. McClintock, Tr. Prat. de Mal. des Femmes. Paris, 1855. Puerperal inversion of one year's standing. Removed with the écraseur; death after fifty-nine hours.

XXX.—1864. Wilson, Edinburgh Journal. Labrevoit, l. c., p. 53. Inversion caused by a polypus; removed with the écraseur.

XXXI.—1861. Veit, Winkel's Path. and Therap. des Wochenb., p. 99. Inversion after birth, existing after birth seven months. Removed with the écraseur.

3. Removal by Ligation and Excision.

a.—Cases terminating successfully.

XXXII.—16—. Vicuseium, Tract. de liquorib. Labrevoit, l. c., p. 49. Ligation, followed by removal with the knife. Patient lived for fifteen days.

XXXIII.—1787. Desault and Bodelogue, Rec. per de la Société. Méd. de Paris. 1791. Inversion caused by a polypus; double ligation, afterwards removed below by the knife

XXXIV.—1802. Alex. Hunter, Hufeland's Journ., 1802, Maerz. Ligation, and after six hours, excision.

XXXV.—1804. Chevalier, Merrimann, die Regel-

widrige Geburt. Deutsch von Kilian, p. 309. Ligation; after twenty days, amputation. Patient lived for several days.

XXXVI.—1806. Clarke, Edinb. Med. and Surg. Journ. 1806, t. ii. Inversion caused by and believed to be a polypus. Ligation and amputation.

XXXVII.—1811. Baxter, Annal. de Littér. Méd. Etrang. Gaud, 1811, Juillet. Inversion of five weeks Ligation, followed by amputation. Menstruation returned twice.

XXXVIII.—1818. Windsor, Med. Chir. Transact., 1819. Puerperal inversion existing since a year and a half. Double ligation. Amputation after twelve days. Stump healed in two and a half months.

XXXIX.—1820. Roettger, Walther u. Graefe Journ., Bd. xxiii., p. 203. Inversion, after repeated removals of polypi, believed to be another polypus, by a barber, who intended removing it by pieces. Fundus cut off. Roettger placed a ligature around it to stop the hemorrhage, and cut the tumor away below. Ligature came away after three weeks. Menstruation is said to have appeared again.

XL.—1821. Weber, Siebold's Journ., bd. v. s. 2. Inversion caused by a polypus. Ligation, followed by amputation.

XLI.—1831. Laserre, Froriep's Notiz., 1836, Jan., p. 116. Puerperal inversion of one and a half year's standing. Ligation; after eight days, amputation. Recovery after four weeks.

XLII.—1835. Cook, Lancet, 1846, Jan. 16. Puer-

peral inversion; ligation, followed in three weeks by amputation.

XLIII.—1836. W. Mooz, Lancet, 1836, vol. ii. Puerperal inversion; ligature; amputation after three weeks.

XLIV.—1840. Portal, Filiatre Sebezio, 1841. Feb. Gaz. Méd., 1841, No. 16. Inversion of four years' standing; ligation; amputation after a few days. Recovery in twenty-nine days.

XLV.—1842. Betschler, Beitr. zur Gynækologie, bd. i. p. 2. Inversion caused by a broad fibroid tumor, attached to the fundus. Ligation, followed after fifteen days by removal with the knife.

XLVI.—1842. Juergeues, M. Horten, Dissert. de Uteri Invers., Dorpat, 1853. Inversion caused by a polypus; ligation with silver wire; excision on fourteenth day.

XLVII.—1843. Crosse, Archiv. Gen. de Med., 1848, Février. Puerperal inversion since one month; ligature; amputation after five days; recovery after four weeks.

XLVIII.—1848. Johnson, ibidem. Puerperal inversion of five years' standing. Ligation, followed after twenty-eight days by amputation. Patient recovered after six weeks.

XLIX.—1848. Hublier, Bull. de l'Acad. de Méd., 1848, No. 41. Puerperal inversion existing for two months.

L.—1849. Higgins, Monthly Journal, 1855, No. 134. Puerperal inversion of twenty years. Ligation; excision with a bistoury; quick and complete recovery.

LI.—1854. Gredding, Gaz. des Hôpitaux, 1855, No.

134. Inversion caused by a broad fibroid tumor; ligation, followed immediately by amputation; three sutures inserted.

LII.—1859. McClintock, Dublin Journal, xxvii., Feb., 1859, p. 137. Puerperal inversion. Ligature remained for forty-eight hours. Removal by the écraseur in the groove formed by ligation.

LIII.—1863. Sheppard, Med. Times, 1863. Ligation and excision.

b. Cases terminating unsuccessfully.

LIV.—1803. Watkinson, Journ. der Ausland. Med. Lit., 1803, Jan., p. 84. Ligation, followed by immediate excision. Ligature slid off the stump; fatal hemorrhage.

LV.—1836. Meerholdt, Dissertatio de Uteri Inversione, Dorpat, 1836. Puerperal of one year's standing. Ligation; amputation; soon signs of internal hemorrhage with consecutive peritonitis, terminating fatally on nineteenth day.

LVI.—1840. Velpeau, Gaz. des Hôp., 1840, Mai, No. 36. Incomplete puerperal inversion; ligation, followed by excision. Death after seventy-two hours.

LVII.—1850. Reported by Engel in Zeitschr. des Deutsch. Chirurg. Vereins, bd. iv. pag. 43. Patient suffered from polypus for three years, which was ligated.

LVIII.—1867. Scanzoni. Inversion caused by an intraparietal fibroid tumor; ligation with Maisonneuve's constrictor, followed immediately by excision with the bistoury. Death ensued on seventh day."

From this exhaustive résumé, embodying fifty-eight

cases of amputation, it will be seen that eighteen terminated fatally,—nearly one-third of the entire number submitted to operation.

Taxis has been practised for the reduction of the inverted uterus, certainly since the beginning of this century and perhaps before that time, in two entirely distinct methods. First, the manipulations of the operator are directed to the constricting cervix, in order to overcome resistance there, and to return first the parts which last escaped. Second, these manipulations are directed to the body, in order to return first the parts which escaped first. The first of these methods is thus described by Capuron:* "If the orifice be not sufficiently dilated to allow the inverted portion to return easily, it is a better plan to take the tumor in the palm of the hand, with the fingers distributed around its pedicle, and to reduce first the portion which was inverted last, as if we were dealing with a hernia." "We encounter at this point," says Aran,† "two opinions which have arisen in relation to the reduction of the uterus inverted during labor: one party desiring to return first the parts which escaped last, subjecting the uterus to a general compression, so as to soften it to a certain extent and force it to pass the orifice little by little, commencing with the least voluminous parts. . . . . Arrived at the tumor, if the operator wishes to employ the first method, he kneads it so as to soften it, and cause it to pass more easily through the constricted orifice in which he engages his fingers."

* Mal des Femmes, 2d Ed. p. 510. † Mal de l'utérus, p. 901.

Becquerel* describes it thus: "It is advisable, as far as practicable, to return first the parts which last escaped; for in this way we dilate in advance the muscular fibres which oppose reduction. (P. Dubois Danyau) . . . . M. Velpeau considers this the best method."

The second method of taxis consists, not in manipulating the "constricted orifice in which he engages his fingers," so as to "dilate in advance the muscular fibres which oppose reduction," as Aran and Becquerel express it; but in dimpling or indenting the fundus itself, so as to make of the indented or invaginated portion a species of wedge, which is forced into the cervical constriction. In recent cases of inversion occurring, as the vast majority of these cases do, after labor, 350 out of 400 reported by Crosse having done so, the centre of the fundus may be indented and carried up through the cervical canal; and even in chronic cases such an invagination is much more practicable than one would theoretically suppose. As a general rule, however, my impression is that the manipulations practised on the fundus act, not in this way, but in overcoming cervical resistance, and thus accomplishing in a more indirect and imperfect way what the French method, styled the method of Viardel by Becquerel, does by engagement of the fingers within, and direct expansion of, the cervical constriction.

Dr. Emil Noeggerath, of this city, has offered a modification of the second plan, which I have resorted to with success on two occasions which will be hereafter

* Mal de l'utérus, tome 2, p. 314.

reported, and which I regard as one of the most valuable suggestions which has been made of late years with reference to the subject. His method consists in compressing the uterine body, opposite to each horn, so as to indent one of these, and thus offer to the cervical canal a wedge, which passes up and is followed rapidly by the other horn and the whole body.

My experience in the reduction of three of my cases has been this: the first result of manipulation has been to overcome the resistance of the cervix, so that the whole of this part turned over and enfolded the body, further progress being stopped by resistance at the os internum; then one horn has gradually become indented, and thus the second part of the process of replacement has been effected.

As the first two of the cases which I here report were seen in consultation with gentlemen who have published them,* I do not feel at liberty to do otherwise than to employ their published records verbatim. After having done so, I shall merely add a few remarks suggested by my personal experience in connection with them.

"Case I. — *Reduction of an Inverted Uterus by a New Method. By* Thos. Addis Emmet, M.D., *Surgeon in charge of the New York State Woman's Hospital.*

The following case was presented at a meeting of the New York Obstetrical Society, November 21, 1865, and published in the *American Journal of the Medical*

* These cases are introduced by permission of the authors.

Sciences, Philadelphia, for January, 1866. It has, however, been, to a great extent, re-written, as well as the subsequent case, and additional material added.

"Mrs. Q., æt 24, came under my charge October 8th, and presented the following history: She had menstruated for the first time at eleven years of age, with no return for a year, but after this period she became regular and continued in perfect health. She was married at 22 years of age; soon afterwards became pregnant and went to full term. Labor commenced between the hours of nine and ten P.M., March 11, 1865. She was attended by a homœopathic practitioner, who was called in attendance at once and remained all night. The progress of the labor, it seems, was perfectly natural. About eleven A.M., the attendant ruptured the membranes, and delivery took place of a large male an hour afterwards, labor having continued nearly thirteen hours. As the head passed the vulva it was discovered that the umbilical cord had made several turns around the child's neck; the cord, as stated, was slipped over the head without traction, the body followed immediately, and soon afterwards the placenta. Within an hour after delivery the patient suddenly became faint, with violent after-pains coming on. This condition continued for some forty-eight hours, with a bloody discharge, which, at the time of a pain, was expelled from the vagina with considerable force. After the pains had ceased, the flow continued more than natural, and at times was almost pure blood. About a week after delivery the nurse discovered a mass presenting just

within the vagina. An examination was made by the attendant, a consultation called, and the case pronounced (as the patient states) one of cauliflower-growth. She returned home to her friends in Utica at the end of the month, still suffering from a constant sanguineous discharge. Her general health at length became so much impaired that Dr. McCall, of Utica, was consulted, and he recommended her to my care.

"She presented every indication of suffering from extreme anæmia, with a pulse of 140, and a loud cardiac murmur following any exertion. On making a vaginal examination, a soft mass, somewhat larger than an egg, was felt lying in the axis of the vagina, and, being pedunculated, might well have been mistaken for a polypus. I passed two fingers of the left hand well up into the cul-de-sac behind the mass, so as to lift the uterus above the pubes, and, with the other hand over the abdomen, I was able to approximate the two sufficiently to satisfy myself that the case was one of inversion of the uterus.

"*Oct. 9th.*—Dr. Thomas saw the case in consultation, and verified my diagnosis. It was then decided that nothing could be gained by further delay.

"10*th.*—With a pulse of 160 per minute, at 12.30 P.M. she was placed under the influence of ether by my assistant, Dr. Perry. As it was a serious question if, in her reduced condition, the anæsthetic could be continued long enough to effect the reduction, I requested Drs. Thomas, Sabine, and Geo. T. Elliot, Jr., to aid me with their counsel. After a few moments she was fully under the influence of the anæsthetic; the pulse became

fuller and reduced in frequency. The patient, lying on a table, of a convenient height for me to operate while seated, was placed on the back, with her knees drawn up. The left hand was passed entirely within the vagina, and by pressure of the fingers the fundus was dimpled, while the organ was steadied by the right hand over the abdomen. At the end of an hour I found that but little progress had been made beyond the fact that the fundus was somewhat smaller, in consequence of the impaired circulation from pressure. As there was full time for reflection, it became evident to me that the mode of reduction recommended by pressure made at the fundus was not applicable when the uterus had already contracted to nearly its natural size. As the fundus was indented by pressure, the body spread laterally beyond the cervix, and, although it materially dilated the neck by flattening it, the power was lost, without influencing to any extent the point of constriction. In fact, it seemed to increase the difficulty with a continued force in the upward direction, by rolling in the parts at the point of inversion. With this view, I allowed the fundus to drop into the palm of my hand, and passing the thumb and fingers around the mass, as high up as possible within the cervix (as shown by the diagram), I continued to enlarge the space between the neck and inverted body, by rapidly expanding the fingers as much as possible. At the same time I made steady upward pressure, with a view of returning first the portion last involved. This manœuvre was aided by lifting the organ above the pubes, and endeavoring with the other hand to roll out

the inverted portion by sliding the abdominal wall over the point with some pressure. In the course of half an hour the progress of the reduction was marked. The globular mass, which was felt through the abdominal parietes in the beginning, now gradually became oval laterally, with a marked depression in the centre. By this time my hand had become almost powerless, and I was obliged to call on Dr. Elliot to relieve me for a few moments. I then continued the manipulation for some three-quarters of an hour longer, when Dr. Thomas, who had been absent during the past hour, returned. From his appreciation of the progress made, the only fear I entertained of final success was in the patient's power of endurance. Gradually the fundus passed entirely within the cervix, but beyond this point, for an hour longer, but little advance was made in the reduction. The depression, however, felt through the abdominal walls, above the seat of inversion, had become large enough apparently to admit the extremities of three fingers, with a proportionate increase in the size of the mass. During the whole time the patient had been kept profoundly etherized by Dr. Perry. This was found necessary from the fact that in the beginning, when its influence was lessened to any degree, vomiting came on immediately, and with any movement of the patient it was impossible to steady the uterus or maintain the necessary amount of pressure. Her pulse had continued good throughout, and her general appearance was satisfactory. Shortly before four o'clock she began to fail; at about ten minutes after that hour her condition had become critical, and I was obliged to abandon

my efforts for the time being, in consequence of the powerless condition of my hands. In consultation the opinion was unanimous, that it would jeopardize the life of the patient to continue the etherization longer. In this opinion Dr. Echeverria, who was present, concurred. At my request a last effort was made, for I was satisfied that I could not be deceived in the fact that the depression, felt through the abdomen, was slowly becoming larger. Drs. Sabine and Elliot, after a few moments, desisted from their efforts, as the latter gentleman had advised a frequent change, so that the hand of each operator having rested, the power exerted would be maintained in a more uniform manner. Dr. Thomas, in turn, also passed his hand into the vagina, and, as he describes it, drew down the mass so as to reproduce the inversion, and on immediately returning it, found that it did so beyond its previous position; he repeated this manœuvre, and on returning it again, on the point of his finger (without force on his part, as he stated), the fundus passed on and the reduction was completed, after an effort of three hours and fifty-five minutes.

"This point is one of great clinical interest, and worthy of discussion by the Society, as to the bearing of this manœuvre on the result, as well as the exact point at which it should be resorted to. My own impression is, that Dr. Thomas is mistaken as to the extent of reduction made by him. The portion below the constriction was flaccid and could be readily drawn down, but above the engaging point, where the surfaces were forced into such close proximity, it is a question whether more force

would not have been required to reproduce the condition existing at the beginning, than it was possible to have exerted. The final effort, doubtless, hastened the issue, yet as the widest portion of the uterus was already so far advanced within the canal, it is possible that the muscular action of the organ itself might at this stage have soon completed the reduction, as, from the result, the canal was evidently already dilated sufficiently for the purpose. We see the principle demonstrated in an india-rubber ball which has been indented; as soon as the action of recovery has once commenced, the progress of restitution rapidly increases to the consummation.

"She speedily recovered her consciousness after the ether, and during the vomiting following, as a precaution, I passed the index finger directly into the relaxed canal of the uterus, which was presenting immediately within the labia. It was fortunate that I did so, for on the instant I felt a portion of the posterior wall near the fundus indented. With the other hand on the abdomen, I seized the organ and restored the portion on the point of my finger, and retained it in the canal until the paroxysm had passed. It was the only effort at vomiting, and there was no return.

"At 5 P.M., with a pulse of 130, twenty-five drops of Magendie's solution of morphia was administered with beef-tea by the mouth. At 9 P.M., pulse 128, as she was suffering from pain generally over the abdomen, thirty drops of Magendie's solution was repeated. She was sleeping quietly at 10.30 P.M.; pulse 112 per

minute. At midnight the pulse was 108, and she had been sleeping since the last visit.

"11*th.*—At 9 A.M. the pulse was 110; she was free from pain, and had passed a quiet night. As there was some tenderness on pressure over the abdomen, a large poultice was ordered. At noon her condition was comfortable; pulse 120, with some increase of tenderness over the abdomen; ordered the morphia to be repeated. Half-past two P.M., was free from pain, and sleeping quietly; pulse 105. At 7 o'clock P.M. pulse the same; repeated the morphia.

"12*th.*—Nine A.M., pulse 100.; she was entirely free from pain, and had passed a very comfortable night. From this time she was kept quiet in bed for twelve days without any further treatment being necessary.

"16*th.*—I made a digital examination and found the os patulous, but the uterine canal contracted above the vaginal junction so as to admit the point of the index finger only for a short distance. The sound passed a little over three inches readily to the fundus, with the organ somewhat anteverted.

"*Nov.* 28*th.*—She visited me after taking a long drive. I found that the uterus had returned nearly to its normal size. She had menstruated naturally a few days before, and was rapidly regaining her health and flesh.*

"On presenting the case to the Obstetrical Society, it was the opinion of several members that the condition of the patient at the point in question favored a rapid reduction in the last stage, and as the dilatation was com-

* *Nov.* 2*d*, 1866.—Her husband called on me to state that she was in excellent health, and now five months advanced in pregnancy.

plete, the innate force of the organ itself might have soon completed the reduction. Dr. Budd remarked that Dr. Noeggerath had some years ago succeeded in reducing an inverted uterus by a similar process, and that the case was published in the "Transactions of the Academy of Medicine." Dr. Noeggerath, being called on, related the case in full, and remarked that in recent cases, and where the fundus had not yet escaped from the cervix, the dimpling process recommended would sometimes succeed, but not always where the inversion was complete. He also gave the particulars of a subsequent case, where he succeeded only by confining his manipulations entirely to the return of one side alone, until the reduction was complete."

I have no disposition to dispute the conclusion, so clearly set forth in this narrative, that my manipulations were of little avail in accomplishing the success which was finally obtained; and while dissenting from the deduction, that "the innate force of the organ itself might have soon completed the reduction," willingly agree, that any other hand which might have been at that moment in the vagina would have done what accident allotted to mine. Nevertheless it may interest the reader for me to state precisely the process by which reduction occurred, in so far as I am able to trust to my remembrance of the occasion. The hand of the operator had been repeatedly changed during the time allotted to the effort at reduction, and each had taken his turn without success. The case appeared so hopelessly rebellious that a last trial was being made by each in turn, preparatory

to the abandonment of the process at that sitting, and I was the last to make the attempt. Taking the fundus in my fingers, I drew it down outside of the vulva, and rapidly pushed it up to the highest point possible in the pelvis. This reinversion of the partially replaced uterus is always very easy, for the reason that there is, unfortunately, no influence at work to prevent it. I have done it in three other cases, have known it done by others, and regard it as a method always to be essayed.

In the fourth case recorded in this essay, I succeeded by it in returning one horn of the uterus to its position.

As I rapidly pushed the uterus up, in Dr. Emmet's case, to the highest point in the pelvis which was attainable, I thought that it was just about to go into position, but was disappointed. Drawing it down again, I then repeated the manœuvre, when it instantly erected itself.

"Case II.—*A case of reduction of a completely inverted uterus, of four years' standing, by means of pressure and a peculiar mode of manipulation.* By Joseph Worster, M.D., of NewYork city.—Extracted from the *American Jour. of the Med. Sciences, for October*, 1867.

"Inversion of the uterus is happily of such rare occurrence that many accoucheurs, long in extensive practice, have never met with a single case. It is always an alarming event at the moment, and often speedily fatal. If the first danger be escaped, and the uterus be not speedily returned, this becomes exceedingly difficult, and the inversion is very often a source of distress which embitters or shortens life.

"This displacement has been mistaken for a polypus, or, when due examination has not been made, has remained undiscovered even until after death. In some cases the uterus has spontaneously returned, after the lapse of a considerable time, to its natural condition, and women have afterwards conceived and borne children. (Meigs' *Colombat.*) But such a result is not to be calculated on.

"A few cases are on record in which the inverted uterus has been returned after a period of twelve weeks, but then with exceeding difficulty. Drs. Emmet and Thomas, in this city, succeeded in returning one after a lapse of seven months, by a peculiar kind of manipulation. (See number of this journal for January, 1866, p. 149, and April, 1866, p. 403.)

"In the case which I am about to relate, this manipulation was also successfully adopted; which, as a new and important means of success, when practised with patience, perseverance, and endurance, both on the part of the physician and patient, and after an unusual period of duration of the inversion, merits to be put upon record, and encourages to future effort in cases hitherto deemed nearly or quite hopeless.

"Mrs. S. J. S., daughter of a physician, consulted me in reference to an inverted uterus; doubtful whether it could be returned or required to be amputated. She was of nervous temperament, well developed, twenty-seven years of age; had been married at the age of twenty-one, and became pregnant thirty days afterwards, and had resided in Wayne Co., N. Y.

"In due time, after a labor of nine hours' duration, she

was naturally delivered, but was speedily attacked with a profuse hemorrhage which induced syncope, depending, no doubt, upon a partial inversion of the womb. After an interval of constipation of nine days, an evacuation of the bowels rendered the inversion complete.

"The inversion was not discovered for a week, and was then mistaken for a polypus. Hemorrhage more or less had occurred during the period, *nearly four years*, which had elapsed previous to her coming under my care. Believing the return of the organ to its natural position to be impossible, and worn out by the suffering and hopelessness of her condition, she had resolved upon submitting to the amputation of the inverted uterus, and had repaired to this city for the purpose of having that operation performed. But, reflecting on the success of a previous case of chronic inversion treated by manipulation, on the danger of amputation, and influenced by the consideration that her naturally fine voice (she was an eminent vocalist) would suffer from the loss of her ovaries, even if the amputation succeeded, I decided to attempt its reduction by means of the hand, aided by the relaxing anæsthetic influences of chloroform.

"Before, however, resorting to this method, I determined to remove all additional sources of pain and irritation which might impede success, and proceeded to heal several superficial ragged ulcerations and abrasions which were patent upon the everted interior surface of the uterus, which organ was much enlarged, and protruding between the labia.

"*Nov.* 3, 1866, 11 A.M.—Assisted by my son, Dr. W.

P. Worster, who administered the chloroform, I attempted the reduction manually. I introduced my well-greased left hand into the vagina and grasped the fundus uteri with the fingers, endeavoring, as much as possible, to lessen its lateral diameter. Thus grasping it between the thumb and fingers, I made strong pressure upwards in the proper axis, wedging it between the sides of the os and neck, which soon began to descend and surround the inverted fundus. At the same time I made, from above and behind the pubis, strong counter-pressure with the thumb and fingers of the right hand through the parietes of the abdomen, downwards into the centre of the depressed fundus and cervix uteri, which soon began to yield. The second finger of the right hand, most successfully operating as a wedge, dilated the cervix until the finger in the centre of its circular ring met the thumb of the left hand within the vagina; using the thumb, at times, to reinvert the cornu, after the manner of Noeggerath, and resorting occasionally to the method with which Dr. Sims, in a more recent case, had been successful in a few minutes.

"This manipulation we continued for thirty minutes, when it was desisted from. The patient had lost much blood, and was much exhausted by the long continuance of an amount of pressure, which only those who have had a similar experience would suppose the uterus capable of enduring. The tenderness of the uterus and abdomen subsided in a few days, but not for some days longer was the manipulation repeated, in order again to effect the cicatrization of the renewed ulcerations,

which again kindly healed under the nitrate of silver and a dressing of cotton saturated with glycerine.

"*8th*, 11 A.M.—I resumed the operation with increased confidence in the certainty and ease with which the damages inflicted would be repaired; the everted inner surface of the uterine cavity being smooth and healthy.

"The patient lying upon her back, the limbs drawn up, and under the full influence of chloroform, I again seized the protruded fundus with the two fingers of the left hand, and thumb thrust into the right cornu, and by long and strong compression so diminished its size that I could carry it up much further than before, and found that little had been lost by the delay. The bulk of the uterus within the embrace of the fingers had retained its position, and was much diminished, and could be now easily pushed beyond the grasp of the surrounding cervical ring. I also succeeded in more depressing the cervix, through the abdominal walls, and effecting a wider divergence of the encircling cervical border on all sides; a space about two inches in diameter.

"The pressure was continued in both directions this time for one hour and five minutes, when physical exhaustion, both on my part and that of the patient, warned me to desist. The parts were secured against further protrusion by Barnes' dilator in the vagina, and a respite of a few hours given to repair damages.

"At 10 P.M. the operation was resumed. The tampon had afforded an excellent support to the protruding fundus. From time to time I adopted a suggestion of Prof. Thomas', which, in Dr. Emmet's case, had seemed advantageous, of drawing down the uterus as

far as possible and then carrying it suddenly upwards to pass it through the os and cervix, but unsuccessfully. In adopting again, further, the suggestion of Dr. Noeggerath, to crowd the thumb into one cornu, it passed through into the fallopian tube, a circumstance which occasioned me no little alarm as to future consequences; considerable hemorrhage followed, and I desisted for the present. At this time the os was so far dilated that I could pass two fingers of the right hand downwards from behind the pubis, and through it, until they met the thumb of the left hand carrying up the cornu from below.

"*9th.*—No serious consequences have followed the violent pressure of the preceding night. Pulse quiet, and patient comparatively comfortable; hop poultices to abdomen, and cold water injections. Subsequent applications of the sol. nit. argenti again kindly healed the breaches made, and after a few days she returned home to await the passing over of her menstrual period, and the recruiting of her energies for a further struggle. In order to avoid prolixity I shall pass over the details of the repetition of the several manipulations for a reduction upon her return, made upon the 28th and 29th of November, and the 8th and 9th of January, 1867.

"*Jan.* 11, 1867.—Patient was placed in the usual position, and, under full anæsthetic influence, the usual manipulations were again resorted to. With the assistance of Prof. Thomas and Dr. James L. Little, who, on this occasion, administered the chloroform, a pressure from below upwards of about twenty pounds was maintained per vaginam, and a corresponding counter-pressure from

above downwards through the abdominal cavity upon the encircling edges of the cervix. The handle of an egg-beater was also resorted to occasionally to relieve the weary and aching forefinger. We took alternate periods of making the pressure, relieving each other at intervals of forty-five minutes; and thus we combined and continued our efforts for *three hours*, until the resistance of both cervix and uterus was overcome, and our fatigue and anxiety were abundantly rewarded with a triumphant success. This fell to the lot of my friend, Prof. Thomas, who, just as the period of his forty-five minutes had about expired, being the end of the fourth alternation, was fortunate enough to complete or effect the reduction with the points of the fingers, to the great satisfaction of all parties concerned.

"The case, for the length of duration and obstinacy of the inversion, and the severity of the effort needed for its reduction, is, perhaps, without a parallel in obstetrical history.

"Its sequel is briefly told. The operation had lasted within a few minutes of three hours, and naturally had much exhausted the patient. Cotton saturated with glycerine was introduced into the vagina, and muriate of morphia, gr. ss, given.

"*Jan.* 12.—In good condition; pulse quiet; a little inclined to nausea; abdominal walls and uterus tender; hop poultices to abdomen.

"14*th.*—Tenderness much diminished.

"15*th.*—Applied solid nitrate of silver with Lallemand's porte-caustique; also at other times solution of nitrate of silver within the cervical canal.

"16*th*.—Tenderness nearly gone. Retroversion, which had existed for a few days past, is removed, and position of the uterus now normal. The patient, desirous of returning home, left on the 20th (tenth day after the operation) for Newburgh, travelling without inconvenience in the horizontal posture, and well satisfied with the result of her visit to New York.

"The points in connection with this interesting case upon which I desire to dwell most strongly are: 1st, the necessity of long, steady, and continued perseverance upon the part of the operator, *to fatigue the encircling cervix*, and cause its relaxation from around the protruding uterus, which is similarly affected and very much aided by, 2d, the counter-pressure from above downwards through the abdominal walls, with the points of the fingers of the right hand kneading and compressing it, and, perhaps, dilating it mechanically.

"Except by this combination of forces, carried to the uttermost extent of fatigue on the part of the operator and patient which nature is capable of enduring, success is not, I think, in cases of long standing, to be attained. But with it much may be expected. It is not original, but it is novel, and merits a faithful trial in all cases.

"I will only further observe, that whereas this young wife came here to submit to a dangerous operation, which, even if successful, would have forever disqualified her for child-bearing, she returned to her home with a perfectly normal condition of her sexual organs, a healthy uterus, and a complete aptitude for conception."

At the moment of reduction in this case, the fibres of the cervix having yielded as far as those of the os internum, which still offered a resisting stricture, I was pressing the thumb upon one horn and the index finger upon the other, after Noeggerath's method. While doing this, I was conversing with the gentlemen who were with me, when, suddenly, my thumb sunk into an indentation. Supposing this to be due to penetration of the uterine tissue, I was about to withdraw my hand and report the accident to Dr. Worster, when, to my surprise, I found upon slight increase of pressure that the indentation increased. I now perceived that the horn had receded, and in a minute or two more the whole uterus rose into its place.

One point upon which Dr. Worster does not, in his essay, lay that stress which I think it deserves, is this: at the commencement of the attempt I proposed making counter-pressure, not by the fingers, but by a conical plug of boxwood, with a handle a foot long, which I carried for the purpose. This plug was not introduced through the vagina, but was used thus: the hand in the vagina lifted the cervix against the abdominal walls, so that the cervical ring could be felt through them, and the plug was then pressed into the ring by pushing before it the abdominal walls. During Dr. Worster's efforts I held this plug forcibly in the cervical ring, and during my efforts he did the same for me. It may have had no influence in dilating the constricted cervical canal, but it is worthy of attention as a rational attempt to accomplish that result. To my mind, and to that of Dr. Little, it appeared that its effect was evidently good.

Case III.—On Thursday, 10th of June, 1869, I was requested by Drs. Bishop and Sawyer to see with them Mrs. C., an Irishwoman, aged 28 years, and mother of one child, ten months old.

The patient had been in perfectly good health up to her labor, ten months before the time of our visit. This labor was tedious, and was followed by a considerable degree of flooding, which enfeebled her greatly, and prolonged the time of her convalescence. She left her bed at the end of a month, and supposed herself for a time to be well. Very soon, however, bloody, watery, and purulent discharges occurred; she suffered greatly from prostration, and had much pelvic pain upon exertion or sudden movement. As she was nursing her child she did not menstruate, and thus escaped much of the sanguineous loss to which most such cases are exposed. On account of the symptoms detailed, she saw her physician several times, but getting no better, sent for Dr. Bishop about one month before I saw her. Dr. Bishop requested Dr. Marvin S. Buttles to see the patient with him, and it is to the latter gentleman that belongs the credit of the diagnosis.

When I saw Mrs. C. she was pale and thin, her pulse over 100 and weak, her appetite poor, and her spirits depressed. Physical exploration revealed the uterus in complete state of inversion, the neck firmly contracted, and the body not remarkably sensitive. Being anxious to try a plan of preparation by which I hoped that relaxation of the cervical stricture might be accomplished by therapeutic means, I proposed to delay manipulation until Sunday the 13th, at 2 P.M. This

was assented to, and I at once put the patient upon the free use of belladonna, and directed that a stream of water should be thrown, as warm as she could bear it, against and over the inverted uterus, three times a day, for half an hour. Suppositories of one grain of the extract of belladonna were placed in the rectum thrice daily, which rapidly produced the poisonous effect of the drug, as evidenced by constriction and dryness of the fauces, and dimness of vision.

On Sunday, 13th of June, at 2 P.M., this preparatory course having been followed for three days, I met the following gentlemen at the house of the patient: Drs. Bishop, Sawyer, Buttles, Randall, and Walker. Dr. Walker having anæsthetized her with ether, she was placed upon her back on a table, and the knees were flexed and held by two physicians, seated one on each side of her. Oiling my right hand, I then passed it into the vagina, and grasping the tumor so that the fingers surrounded the pedicle, I pushed it steadily upwards against the abdominal wall, where it met the counter-pressure of my left hand. In exactly ten minutes the entire cervix yielded and the body went up, so that its lower margin was on a level with the lips of the os externum. Then seizing the body with my thumb on one horn and my index-finger pressing the other, I tried Noeggerath's method. In seven minutes one horn, that pressed by the thumb, became indented, in eight minutes the other followed it, and in just twenty-five minutes the whole operation was completed.

I feel very sure that the entire reduction could have been effected, in this case, in fifteen minutes; but the

rapid yielding of the cervix giving to my hand a band which was really the os externum, I became very doubtful as to whether I had not ruptured the whole vaginal attachment. This doubt delayed me longer than one not familiar with the peculiarly paralyzing effect of the compressing power of the vagina would suppose. My fears were fortunately unfounded, no portion of the vagina was injured, and the patient recovered rapidly and completely.

I proposed employing an abdominal plug for making counter-pressure and overcoming cervical constriction in this case as I had done in Dr. Worster's, but the parts yielded so rapidly that I found no such resort necessary.

The results of the case delighted me, and I flattered myself that in the ordinary means for relaxing cervical constriction in obstetric practice, I had found a therapeutic measure which would prevent recourse to dangerous and prolonged manipulations in inversion, and perhaps even abolish the necessity of the operation of amputation. The perusal of case fourth will inform the reader how baseless were my sanguine expectations:

Case IV.—On the same night upon which I received Dr. Bishop's note requesting a consultation in the case just narrated, I received a letter from Mr. B. of Louisville, Kentucky, detailing the following facts:

He stated that his wife, aged 23 years, a native of Indiana, had enjoyed good health until 21 months before that date. At that time she bore a child, and since then she had been an invalid.

Subsequent to this, menorrhagia of most profuse character had occurred at each menstrual period, and for its relief she had sought medical aid. The physician who was consulted prescribed astringents and hæmostatics, but did not explore the vagina for the cause of the difficulty. Eight months after her labor she fortunately applied to Prof. Henry Miller, of Louisville, the accomplished author of "Miller's Principles and Practice of Obstetrics." This gentleman at once recognized the nature of the difficulty, and proceeded to apply the proper remedy. On five occasions he anæsthetized the patient with chloroform, and employed taxis for an hour and a half. Each effort thus made was followed by the systematic employment of pressure by means of the vaginal air pessary. All his efforts were of no avail. The patient became exhausted and discouraged, and leaving Louisville, sought the aid of Prof. Theophilus Parvin, then residing in Indianapolis.

Prof. Parvin made five determined and prolonged attempts, each one lasting from four to six hours, the patient during their continuance being under the influence of ether, and each being systematically followed by the air pessary. All these efforts resulted in failure, and the patient, exhausted and almost desperate, returned to her home in Kentucky. Here she met with Dr. W. M. Allen, who advised her to make still another trial, and, in accordance with his counsel, she came to me about the last of August.

Upon Mrs. B.'s arrival in the city I was away, but saw her on the 1st of September. When Mr. B. had written to me, asking for a frank statement as to what

hope I could hold out, my reply was, that after Profs. Miller and Parvin had failed I was inclined to promise nothing. My mind, however, was so possessed by the idea that belladonna, the warm douche, and the abdominal plug, by which I had twice succeeded, once in a rebellious case, and once very rapidly in a simple one, would succeed in this, that I urged him at least to let me make an effort.

I found Mrs. B. to be a delicate, fragile blonde, weighing about ninety pounds, very pale and exsanguinated from profuse menorrhagia, which had occurred at intervals for 21 months, and much disheartened by the failure of her eminent medical advisers.

The patient was rapidly brought under the full influence of belladonna, administered by rectal suppository, and the warm douche was employed three times daily, for an hour each time. At the end of a week she was anæsthetized with ether, placed upon the back upon a table, and, aided by Drs. Nott, Metcalfe, and Walker, I proceeded to make my first attempt at reduction by taxis. For one hour I tried faithfully all the varieties of taxis to which allusion has been made in this paper, and made counter-pressure by the abdominal plug, but all to no purpose. The cervix expanded nearly up to the os internum, but no further would it yield.

Filling the vagina with a caoutchouc bag, and distending this with very warm water, she was now put into bed. On the next day, at the same hour, exactly the same procedure was gone through with, Dr. Sabine replacing Dr. Metcalfe in the consultation, on account of the indisposition of the latter gentleman. The re-

sult was the same, and at the conclusion of the attempt the bag was replaced, filled with warm water, and on the next day the third trial was made.

At the end of the hour no advance was obtained, and I now began to share in the opinion of Dr. Miller, that adhesions existed within the sac, and that no amount of taxis would ever reduce the displaced fundus.

For cases in which reduction has been so far effected that the fundus can be pushed up to a level with the external os, Dr. Emmet has advised and practised a method which appears to me to be most excellent. It consists in closure of the os externum by silver sutures, so that the fundus, imprisoned in the cavity of the neck, tends to dilate the constriction near the os internum. At a subsequent period the stitches are removed and taxis is practised again. I should have resorted to this plan here, but the fundus was never sufficiently high to admit of its retention in this way. Dr. Emmet's method will be found described at length in the *Amer. Jour. of the Med. Sciences* for January, 1868.

On the next day we met again, in the case of Mrs. B. Being desirous of giving the patient the advantage of every resource which would save her from a dangerous capital operation, I went to the consultation prepared to offer two suggestions: the first was that I should pass a delicate tenotome through the fundus, carry it up through the cervical canal, and incise its four sides so as to cut through the constriction existing there, and due to the fibres near the os internum; the second was, that I should draw the uterus outside

the body and cut downward through the mucous membrane. The patient having been anæsthetized, I manipulated as usual, except that I employed greater force, for twenty minutes. At the end of this time, no progress being observed, we consulted upon my propositions, and, with the acquiescence of my colleagues, I pushed the uterus up as far as it would go, then, fixing by my finger the point of constriction, I drew it down, and cut down through the tissue of the neck, the incision first involving the mucous membrane and extending down toward the subjacent peritonæum, as recommended by Aran.*

No sooner was the knife withdrawn than a free jet of blood was projected from an artery which appeared nearly equal in size to the radial. This jet was not per saltum, but steady, as it is often seen to be from small arteries located in dense fibrous tissue. I presume that I cut the circular artery of the neck, which had become increased in size by the displacement of the uterus. For a half hour we strove to ligate this. Upwards of a dozen ligatures were one after another applied, but the vessel had retracted into the brittle tissue of the uterus, and could not be tied. Dr. Walker went for the actual cautery, but before his return the flow was checked by Dr. Nott's passing a suture through both lips of the wound, and bringing them forcibly together. Of course all efforts at taxis were at an end, for the present; nor did I think it wise or warrantable again to renew them; for fourteen efforts had now been made without any promise of success.

* Mal de l'utérus, p. 906.

The case then presented itself in the following aspect. Here was a patient whose exsanguinated condition and tendency to profuse hemorrhages demanded relief from an evil that would soon destroy her life, which on more than one occasion had been in danger from excessive flooding. Taxis had been tried fourteen times, some efforts lasting from five to six hours, and only one less than an hour. The constriction which resisted reduction had been cut at infinite risk, and all had failed. The only recognized operation which now offered itself was amputation, and at the thought of this the patient revolted.

Under these circumstances I proposed an operation which throughout the progress of the case I had kept in reserve, and which, two years before it, I had fully elaborated in my mind. It was, that I should make an incision two inches in length through the abdominal walls and peritonæum, just over the cervical ring; pass into this ring a steel dilator, made on the principle of a glove-stretcher; stretch the constriction; and return the uterus to its place. The propriety of the operation being concurred in by my colleagues, and by my partner Dr. Metcalfe, it was explained to Mr. B., and all its important bearings made clear to the patient herself, of whom I had seen enough to know that her unflinching courage was equal to any trial which promised release from the unfortunate state which for nearly two years had embittered her life and destroyed her usefulness.

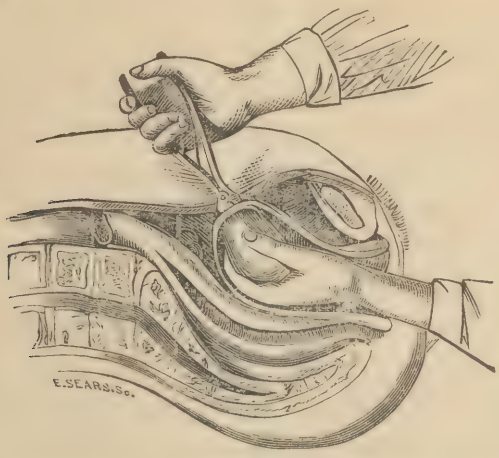
After ligation of the circular artery, the mucous membrane of the uterus sloughed extensively and the

patient appeared much exhausted. In a week from this time, however, she was in a fit condition for the operation proposed, and it was appointed to take place on the 16th of September.

The instrument represented below was promptly and artistically executed for me by Messrs. Darrow & Co., of No. 1217 Broadway, and I obtained a small anal speculum, and a dilator for stricture of the rectum, to be employed, should sufficient dilatation not be accomplished by the instrument which is here shown.

On the 16th Sept. the operation was performed in presence of Drs. R. P. Howard, of Montreal; Hutchison, of Brooklyn; S. W. Francis, of Newport; and Nott, Sabine, Metcalfe, Markoe, G. T. Elliot, Noeggerath, Jas. L. Brown, and Walker, of New York. The patient having been put under the influence of ether, Dr. Metcalfe introduced his hand into the vagina, and lifted the uterus so that I could detect the cervical ring against the abdominal wall. I then slowly cut down upon the median line, as for an exploratory incision in ovariotomy, and leaving the wound exposed to the air until all oozing had ceased, cut into the peritonæum. I then inserted my finger into the uterine sac, and found no adhesion whatever to exist. Replacing Dr.

Metcalfe's hand by my left hand, I now inserted the steel dilator, and, in the manner represented in the subjoined figure, dilated the stricture.



The dilatation was exceedingly easy and rapid, but I found that as I withdrew the dilator, the tissue of the organ would at once contract. After dilating the stricture fully, I partially returned the uterus, after some effort, in the same manner in which reduction was accomplished in Dr. Emmet's case. Drawing it down to the vulva, I rapidly pushed it up, and was gratified at finding that it was nearly replaced. Drawing it down again, this time outside of the body, to my dismay, I discovered that the artery, cut one week before, was spouting freely. I now saw that success must be attained at once, or that it would elude my grasp when just within it. Actuated by this feeling, I rapidly returned the organ, and was delighted to find one horn rise into place. But the additional force employed was a little more than the vagina could bear, and one fin-

ger passed through between the uterus and bladder. One horn was still inverted. Passing the dilator into this, I stretched it open, and instantly the uterus resumed its normal position.

The time of the operation was noted by Dr. Samuel W. Francis as follows: patient under ether, 1 hour and 2 minutes; time occupied in opening peritonæum, 17 minutes; time occupied in returning uterus, 27 minutes.

After this the patient rallied rapidly, and her delight at learning that the obstinate inversion had been really overcome unquestionably acted as a stimulant to recovery.

The abdominal wound was closed by four silver sutures, involving the peritonæum, and dressed with cold water. The vaginal rent was not interfered with.

On the next day the artery, which had already given so much trouble, began to give forth blood so freely into the vagina and through the vaginal rent into the peritonæum, that I thought the hemorrhage would end fatally. The pulse ran up to 160 to the minute, the face and extremities became cold, and so imminent did the danger of exhaustion appear to me that all preparations were made for transfusion.

Before resorting to this measure, I tried to check the flow by elevating the foot of the bed two feet, so as to throw the whole aortic column of blood back upon the heart, and applied a bag filled with tannin against the os uteri. These measures happily succeeded, and hemorrhage ceased entirely.

Subsequent to this period, the patient recovered without a single unfavorable sign; the peritoneal edge of

the abdominal wound healed by first intention, and on the eighth day after the operation she left her bed for her lounge.

This operation was by no means perfect. The instruments which I employed for dilatation were, I found too late, inefficient, and means for keeping open the constriction, after removal of the dilator, were entirely wanting. I feel very sure that were I to essay it again, which I should not hesitate to do *in a case which had resisted all minor means, as taxis, vaginal pressure*, &c., and for which no resource but amputation remained, I should succeed more rapidly, easily, and with less risk to my patient.

In reading the description of such an operation as this, the first idea which is likely to take possession of the mind is that of its being a very bold procedure. This I think is an error. Explorative incisions for ovariotomy prove that the dread which was formerly entertained about opening the peritonæum was much greater than it should be. And if the reader will bear in mind the statistics already given, which prove that $\frac{1}{3}$ or $\frac{1}{4}$ of all operations for amputation of the inverted uterus end fatally, even while essaying, not cure, but palliation of symptoms at the cost of the uterus itself, he must admit that there are good grounds for questioning this conclusion, arrived at without mature reflection.

For the credit of the operation, imperfect as it was, the following facts must be borne in mind by the reader. The difficulties which attended it were none of them inherent to it, but depended upon want of experience as to its various requirements. The patient was

subjected to it in a state of great exhaustion from other operations. The evils which followed it, and well-nigh frustrated its results, were due, not to it, but to section of the neck, performed a week before. So far as the operation itself was concerned, the patient recovered without an untoward symptom.

Before concluding my remarks I will venture some advice, based upon the experience recorded in this essay, as to the course which should be pursued in an ordinary case of inversion, and then offer a few suggestions for any one who, in a rebellious case, may be disposed to try the operation which I have described.

In a case presenting itself for the first time for treatment, I should use belladonna and the warm douche for a week, so as to relax the uterine tissue as far as possible, and then for another week employ pressure by means of a caoutchouc bag filled with air or water. After this I should employ taxis, for a period not exceeding one or two hours, once, or at most twice a week, in the mean time keeping up vaginal pressure by the caoutchouc bag, or, if the fundus were returned within the os, by closure of this after Emmet's method.

Having failed with these measures, *and not before*, I should resort to abdominal section, modifying the operation which I performed in the following manner. Instead of employing a dilator of two limbs, I should employ one of four; and instead of dilating by the hand applied to the handles, I should distend the instrument by screws. Having distended its four limbs, I should keep the instrument in place for twenty-five or thirty minutes, so as to wear out the tendency to contract before any

efforts at reduction were made. Even then, before removing the dilator, I should introduce between its limbs something which would exert a counter-pressure against the hand placed in the vagina. For this purpose I would suggest a hard rubber cylinder $1\frac{1}{4}$ inches in diameter, similar to that shown below, which has a piston passing through its centre, and a shoulder or ridge encircling it. This ridge would answer for making counter-pressure; the walls of the cylinder would prevent closure of the cervical canal by contraction of its tissue; and the vacuum created within the inverted uterus, by retraction of the piston, would aid in reducing the body, when pressure is made upon it by the hand in the vagina. The shoulder might be made quite wide, so as to rest on the edges of the abdominal wound, while the extremity of the cylinder passed within the abdomen; or it might be made narrower, so as to pass into the abdomen, and rest on the edges of the cervix, as shown in the diagram.

Cylinder, with piston within it, and shoulder around it, passed down into an inverted uterus.